AMENDMENTS TO CLAIMS

Amend the claims as follows:

1. (Currently Amended) A data processing unit for registering a first image and a second image of an object, the data processing unit being set up to:

- segment the images automatically into various object constituents;
- register only those image areas associated with ~~preselected~~ object constituents which are relevant to a predetermined task, wherein the object constituents to be registered are selected independently from the first image and the second image.

2. (Previously Presented) A data processing unit for registering a first image and a second image of an object, in particular a data processing unit as claimed in claim 1, which is set up to:

- segment the images automatically into various object constituents;
- register the image areas of various object constituents using individually assigned registration methods.

3. (Previously Presented) A data processing unit as claimed in claim 1, wherein the segmented object constituents are automatically classified.

4. (Previously Presented) A data processing unit as claimed in claim 1, wherein a linear registration is performed on several resolution levels, rigid bodies being registered on a coarse grid followed by affine registration on a finer grid.

5. (Previously Presented) A data processing unit as claimed in claim 1, wherein the first image and/or the second image are/is (a) two- or three-dimensional computer tomogram(s), in particular an X-ray photograph or a magnetic resonance image.

6. (Previously Presented) A data processing unit as claimed in claim 1, wherein the object is the chest of a patient, the lungs being the object constituent relevant to a tumor diagnosis.

7. (Previously Presented) A data processing unit as claimed in claim 1, wherein the segmentation is performed using a watershed transformation.

8. (Previously Presented) An examination apparatus, comprising:

- an imaging device for producing images of an object;
- a data processing unit as claimed in claim 1, coupled to the imaging device.

9. (Currently Amended) A method for registering a first image and a second image of an object, comprising the following steps:

- automatic segmentation of the images into various object constituents;
- registration of the image areas associated with ~~preselected~~ object constituents relevant to a predetermined task, wherein the object constituents to be registered are selected independently from the first image and the second image.

10. (Currently Amended) The ~~A~~ method of claim 9 wherein the registration is performed ~~for registering a first image and a second image of an object, comprising the following steps:~~

~~automatic segmentation of the images into various object constituents;~~

~~registration of the image areas of various object constituents~~ using individually assigned registration methods in each object constituent.

11. (New) The method of claim 9, further comprising automatically classifying the segmented object constituents.

12. (New) The method of claim 9, further comprising performing a linear registration on several resolution levels, rigid bodies being registered on a coarse grid followed by affine registration on a finer grid.

13. (New) The method of claim 9, wherein one of the first image and the second image is a two- or three-dimensional computer tomogram.

14. (New) The method of claim 9, wherein the object is a chest of a patient, and the predetermined task is tumor diagnosis in a lung of the patient.

15. (New) The method of claim 9, further comprising performing the segmentation using a watershed transformation.

16. (New) The method of claim 9, wherein the registration is one of a rigid body transformation, an affine transformation, and a non-linear spline function.

17. (New) A data processing unit as claimed in claim 1, wherein the registration is one of a rigid body transformation, an affine transformation, and a non-linear spline function.